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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,829	11/28/2001	Yukinori Matsumoto	990191B	1134

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EXAMINER	
SAJOUS, WESNER	
ART UNIT	**PAPER NUMBER**
2676	

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/994,829	Applicant(s) MATSUMOTO ET AL.	
	Examiner Wesner Sajous	Art Unit 2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2004* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *43,47,48,50,54,55,57,61,62,64-81 and 95-97* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *47, 48, 50, 54-55, 61-62, 67-81, and 95-97* is/are allowed.

6)☒ Claim(s) *43,57 and 64-66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) #0
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Remark

This communication is responsive to the amendment and response dated January 23, 2004. Claims 43-81 and 95-97 are pending in the present application. By this amendment, claims 43, 47, 48, 50, 54-55, 61-62, 67-81, and 95-97 has been amended and claims 44-46, 49, 51-53, 56, 58-60, and 63 have been canceled. As a result, claims 43, 47, 48, 50, 54-55, 57, 61-62, 64-81, and 95-97 are presented for examination.

Response to Amendments/Arguments

1. With regard to claims 64-66, the Applicants argue that the Murata reference fails to teach extracting a region having a mean value within a predetermined range.

The Examiner, in response, respectfully disagrees. It is noted that as long as a region with a depth value is extracted, Murata meets the claimed invention, because, in the claims, the Applicants fail to specifically recite what the predetermined range is characterized by. In the case of Murata, a region with a mean value of depth information is extracted. This mean value is interpreted to be a predetermined range out of a plurality of regions. For, to extract a region with the highest mean value, other region mean values must be considered during the extraction step. Thus, the Applicants argument is not deemed persuasive.

All other Applicants' argument with regard to the claim rejections have been fully considered but are moot in view of the new ground of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 43,57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (US Pat. # 6151424) in view of Avinash (US Pat. # 5832134) and further in view of Lee (US 2002/0048399).

Considering claim 43, Hsu and Avinash render obvious most claimed features of the invention as set forth in the previous office action, paper # 7; however, Hsu and Avinash fail to teach an extraction means as a process of averaging information of each pixel in an object image each for a region.

Lee, in a similar art, teaches the functional equivalence for extraction means as a process of averaging information of each pixel in an object image each for a region (e.g., extracting color information by dividing an image into regions; obtaining an average hue value of pixels having a chroma above a predetermined threshold, and a variance of hue values for the pixels concerned in the average value with respect to the divided regions. See Lee's paragraph 0025). It is should be noted that in evaluating Lee that the average hue value is obtained for each of the divided region and pixel of the image in order to have a chroma value that meets the color distortion information.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the features of Hsu and Avinash to include the color extraction step recited in Lee, in order to provide an effective method for extracting an image more accurately.

Claim 57 is a computer program product performing the same method as apparatus claim 43 it is, therefore, rejected for the same reasons and rationale set forth for claim 43.

14. Claims 64-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (US Pat. # 6151424) in view of Avinash (US Pat. # 5832134) and further in view of Murata (US Pat. # 6445833).

Considering claim 64, Hsu discloses an object extraction apparatus (*see figs. 8 [a & b]*) for extracting an object portion (*e.g., a segmented region, see fig. 7*) ... from an image object obtained by shooting an object of interest (*e.g., original scene 1, see fig. 1*) comprising:

Region segmentation means for dividing said object image into a plurality of regions (*see col. 4, lines 8, lines 63-65*); and extraction means for identifying and extracting the object image by a process of consolidating information of each pixel in the object image each for the region (*see col. 13, line 19 through col. 14, line 52*). The Applicant should duly note that the process of consolidating information of each pixel in the object image is contemplated to denote the combination of image resolution of each segmented object region prior to performing the object extraction means (*see col. 4, lines 18-40,*

particularly lines 36-40. See also col. 9, line 11 to col. 10, line 54 as characterizations for the object image region pixel merging (or consolidating) schemes).

It is noted that although Hsu discloses substantial features of the invention, Hsu lacks implicit recitation for removing an undesired portion from an object image obtained by shooting an object of interest.

Avinash, in the same field of endeavor discloses removing an undesired portion from an object image obtained by shooting an object of interest. See abstract and col. 2, lines 65-67.

However, Murata teaches calculating mean value of depth information of an image object for extraction. See col. 35, lines 55-66.

Accordingly, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to consider modifying the object extraction apparatus of Hsu and Avinash to include the calculation of mean value of depth information of an image object for extraction in the same conventional manner as taught by Murata, in order to correct depth information of all the object region. See Murata's col. 35, lines 55-66.

Claim 65 is a method performing the same function as claim 64; it is, therefore, rejected under the same rationale as claim 64.

Claim 66 is a computer program performing the same function as claim 64; it is, therefore, rejected under the same rationale as claim 64.

Allowable Subject Matter

4. Claims 47, 48, 50, 54-55, 61-62, 67-81, and 95-97 are allowed over the prior art.

Reason for Indicating Allowable Subject Matter:

The Applicant, by amendments, has incorporated allowable subject matters into the previously rejected base claims. As a result, the limitations of claims 47, 48, 50, 54-55, 61-62, 67-81, and 95-97 are allowed over the prior art.

Conclusion

Any response to this action should be mailed to:

Box

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or faxed to:

(703) 308-9051, (for formal communications; please mark "EXPEDITED PROCEDURE")

0r:

(703) 308-5359 for informal or draft communications, please label "PROPOSED" or DRAFT")

Hand-held delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA , 6th floor (receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesner Sajous whose telephone number is (703) 308-5857. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Matthew Bella, can be reached at (703) 3086829. The fax phone number for this group is (703) 308-6606.

Wesner Sajous - WS

3/29/04